ABSTRACT

In 2020 in Indonesia, the food and beverage industry will provide the largest contribution to the national GDP by reaching 7.02 percent. Small and Medium Industry or IKM is one of the biggest contributors. One of the IKMs that is developing in Pekanbaru is the Bolu Kemojo SMIs. Bolu Kemojo is a typical cake from the Riau area. This study tries to identify the criteria for evaluating supplier performance, measuring supplier performance, and providing recommendations for SMIs related to alternative suppliers. Fuzzy Analytical Hierarchy Process (FAHP) is a popular method for decision making. This method is better than AHP, which was criticized for its inability to handle the uncertainty of the decision maker's perception. FAHP is combined with Technique for Order Preference by Similarity to Ideal Solution (TOPSIS). TOPSIS is useful for determining important criteria and the best alternative according to needs. A case study of the application of this method, namely the raw material for bolu kemojo SMIs in Pekanbaru in evaluating supplier performance. Data were collected from five experts, namely the owner of Al-Mahdi Bolu Kemojo, the owner of Luky Bolu Kemojo, the owner of Jasmine Bolu cake, the owner of Mimie bolu kemojo and owner of Delima bolu kemojo. FAHP results show that quality is the most important criterion with a weight of 0.262. Recommendations for the best alternative suppliers in coconut milk, flour, and egg raw materials include U.D Santan Murni Rose, U.D Aroma Baru and U.D Ari based on TOPSIS calculations. The findings in this study may be able to help SMI Bolu Kemojo in Pekanbaru in determining suppliers for their raw materials.

Keywords: *supplier performance, Fuzzy Analytical Hierarchy Process, TOPSIS*